

ABSTRACT

A drift tube linear accelerator (linac) that can be used for the acceleration of low energy ion beams. The particles enter the linac at low energy and are accelerated and focused along a straight line in a plurality of resonant accelerating structures interposed by coupling structures up to the desired energy. In the accelerating structures, excited by an H-type resonant electromagnetic field, a plurality of accelerating gaps is provided between drift tubes supported by stems, for instance alternatively horizontally and vertically disposed. A basic module composed of two accelerating structures and an interposed coupling structure, or a modified coupling structure connected to a RF power generator, is if necessary linked to a vacuum system and equipped with one or more quadrupoles.